BOOK REVIEW

Extinction & Biogeography of Tropical Pacific Birds. David Steadman. Chicago: University of Chicago Press. 2006. xi + 594 pp., 108 halftones, 133 line drawings, bibliography, 1 appendix, 2 indices. cloth US $110.00; £69.50—ISBN 0-226-77141-5; paperback US $45.00; £28.50 ISBN 0-226-77142-3.

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I first had the opportunity to work on a tropical island as an undergraduate student in the early 1990s and quickly became fascinated with the diverse array of flora and fauna that surrounded me. Archaeologically I was just as enthralled, for it seemed to me, at least on the surface, that these islands must have been harsh places to live, yet at the same time richly abundant in resources to prehistoric settlers. I must admit that this superficial perception of island life quickly evaporated as I began researching some of the common themes in island archaeology. In the process, I encountered the growing body of evidence in the Caribbean and Pacific suggesting that humans had overexploited, or had impacted in some fashion, island environments long before the arrival of Europeans. During this initial launch into my archaeological career, more often than not I found myself reading David Steadman's research on fossil bird life in the islands which began to pique my interest even further in human-insular biota relationships.

Extinction & Biogeography of Tropical Pacific Birds is a recent synthesis of Steadman's work in Oceania. The book is divided into 22 chapters spread across four main parts that lead off with a background on Pacific Island environments and culture history (Part I). The book then moves on to a summary and inventory of birds that have been found or recovered archaeologically from the major regions of the Pacific (Part II). The third section provides an overview of the main avifauna known from the islands (megapodes, rails, pigeons and doves, parrots, other nonpasserine landbirds, passerines, and seabirds). The final section (Part IV) is comprised of seven chapters that discuss major issues in the study of birds (e.g., equilibrium and turnover, conservation biology). Although specific to the tropical Pacific, many of these chapters will be of great interest to ornithologists, island biogeographers, and archaeologists whose expertise lies outside the region.

As Steadman acknowledges, there have been many attempts by biologists to inventory the species richness and diversity of organisms in the Pacific. However, these early surveys were often inadequate in their coverage and lacked methodological rigor. Yet, they still managed to form the basis for developing intricate models and theories on the dispersal and colonization of island taxa, extinction rates, and reasons for explaining the decrease in species richness known as "faunal attenuation" (in this case, "the overall west-to-east decline in taxonomic diversity of landbirds in Oceania"; 430). It is now known that the baselines set by these previous studies were inaccurate for modeling the distribution of Pacific Island fauna, helped in large part by an

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array of increasingly sophisticated techniques used by archaeologists and their close disciplinary cousins in the biological, environmental, and geological sciences. "[O]ur descriptive knowledge of the distributions of Polynesian landbirds has been so incomplete as to be deceptive" (xi) and "[e]ven values for species richness that incorporate the species lost to human impact are underestimates of the true number of species that an island would sustain today under natural conditions" (xi).

The fact remains that peoples who first encountered the pristine island environments of the Pacific were really no different than humans elsewhere—they exploited their environments, brought with them non-native plants, animals, and insects, successfully adapted to changing conditions, and grew steadily in population. All of these behaviors and more had the cumulative effect of impacting local biota and birds are certainly no exception. But what makes them different from other animals, as Steadman notes, was their relative abundance compared to other terrestrial animals, initial naïvety toward humans (making many of them easy to prey upon), and their extreme susceptibility to animals introduced during human colonization such as the rat. Habitat destruction due to land clearance did nothing to help the situation.

What makes these oceanic islands different too, especially in terms of avifauna, is that "pure isolation is an effective barrier to colonization" (40) and "remains the major force in faunal attenuation, even when fossils are considered" (447). Aside from the important implications that the recovery and analysis of fossil and modern avifaunal collections has for understanding the biodiversity and level of human impact on insular environments, Steadman has brought to the forefront the necessity of conducting cross-disciplinary research if we are to truly make sense of how peoples interacted with their surroundings (whether island or continental). He is right to encourage his biology students to "dabble in geology or archaeology" (519). Despite archaeology being a very multi- and inter-disciplinary field of study, I would caution that we as archaeologists don't often do enough to stress to students the importance of initiating collaborative research endeavors across the sciences.

What I found most helpful as I read through the volume was the concise way in which it was written. It is not jargon-filled, nor is it overly-theoretical. This is purposeful, for Steadman states outright at the beginning that he uses a "historical approach, grounded in carefully collected empirical data" because his interest here really lies more in "conceptual progress than in theoretical exercises that are electronically feasible but may have little bearing on understanding how real species exist on real islands" (iv). His observation that students of biology "are funneled into theory-revising long before they know enough about nature even to evaluate whether what they're trying to support or refute has any biological merit in the first place" (519) might also be said of archaeology. The result is a book that is written not only for Pacific scholars, but undergraduates, graduate students, and even layman if they are so inclined. I have run across few books which can claim such a distinction.

I was also thoroughly impressed with the copious number of tables, graphs, photographs, and maps that accompany each section as well as an appendix of bird taxonomy and two useful indices (one systematic, the other general). I especially appreciated the frequent inclusion of regional, archipelagic, and local maps that highlight the distribution of archaeological sites and islands, for example. It was refreshing not to have to keep turning the pages back to reference one or two token maps at the beginning. The tables and graphs are simple, yet highly informative, while the plentiful number of photographs of actual birds and their skeletal remains allows the reader to get a sense of just how diverse these taxa are. I was slightly disappointed that there were no color photographs inside, but doing so probably would have made the book far too expensive for most people, thus defeating the purpose of making it ac-

cessible to as wide of an audience as possible (at US $45.00 for the paper version, it is truly a bargain).

I must say too that one of the distinguishing marks of this book for me were Chapters 1–3—Steadman could have easily chosen to gloss over (or perhaps even exclude) the sections on geography, geology, environment, and human history without offending too many readers in the process. Instead, one is given a nice overview of the different island types found, how they formed over time, and when they were settled by humans, among other important subjects. There are a few parts that could be updated. For example, the prehistoric settlement of Palau has now been pushed back in recent years to at least 3000 B.P., in contrast to 2200 B.P. cited on p. 75. But this extremely minor oversight is to be expected given the dramatic increase in published work done in the islands over the past few years.

An amusing tidbit which will hit home to anyone who has worked on tropical islands is his candidness in describing what it is *really* like to work in Oceania (see p. 99). Although many outsiders (read: non-nissologists, island tourists, friends and family) often look in envy at our decision to work on what appears to be beautiful, relaxing beaches and lush jungles filled with brightly colored flowers and towering waterfalls, they are typically no such thing. In contrast to popular belief, fieldwork is usually filled with long, hot days battling skin sores, downpours, mosquito, chigger, and sand flea bites, cuts that won't heal, and all sorts of vermin, not to mention treacherous trips driving over rut-filled dirt roads and crossing through shallow reef passages in leaky boats during rainstorms. It is necessary to build up a tolerance to these daily occurrences when working in the field year after year, but it doesn't always prepare you for everything that might be encountered. Steadman's story of being attacked out of the blue by a pack of dogs on Nomuka in Tonga rang all too true for me, having almost endured a similar fate in American Samoa.

In sum, this book has accomplished what many scholars might hope to achieve when compiling a vast summary of their life's work up to the present—a volume that is greatly detailed but simplistic in form. Those who have an interest in the biology, biogeography, and archaeology of the Pacific should have this on their bookshelf, without exception. Scholars who work in related areas outside the region should strongly consider buying it too. And to those of you who have never even thought about tropical Pacific Island birds, open it up—I guarantee you will not be disappointed.